

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/718,952A
Source: 1Fw16
Date Processed by STIC: 1/19/06

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IFW16

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/718,952A

DATE: 01/19/2006

TIME: 12:52:09

Input Set : A:\BB1077 US DIV SUBSTITUTE SEQUENCE LISTING.txt
 Output Set: N:\CRF4\01192006\J718952A.raw

3 <110> APPLICANT: Hitz, William
 4 Sebastian, Scott
 5 Grace, John
 6 Streit, Leon
 8 <120> TITLE OF INVENTION: SOYBEAN PLANT PRODUCING SEEDS WITH REDUCED LEVELS OF
 RAFFINOSE
 9 SACCHARIDES AND PHYTIC ACID
 11 <130> FILE REFERENCE: BB1077 US DIV
 13 <140> CURRENT APPLICATION NUMBER: 10/718,952A
 14 <141> CURRENT FILING DATE: 2003-11-21
 16 <150> PRIOR APPLICATION NUMBER: 10/025,003
 17 <151> PRIOR FILING DATE: 2002-03-11
 19 <150> PRIOR APPLICATION NUMBER: 09/299,315
 20 <151> PRIOR FILING DATE: 1999-04-26
 22 <150> PRIOR APPLICATION NUMBER: PCT/US98/06822
 23 <151> PRIOR FILING DATE: 1998-04-07
 25 <150> PRIOR APPLICATION NUMBER: 08/835,751
 26 <151> PRIOR FILING DATE: 1997-04-08
 28 <160> NUMBER OF SEQ ID NOS: 20
 30 <170> SOFTWARE: Microsoft Office 97
 32 <210> SEQ ID NO: 1
 33 <211> LENGTH: 1760
 34 <212> TYPE: DNA
 35 <213> ORGANISM: Glycine max
 37 <400> SEQUENCE: 1
 38 ctcttcttta ttcctttgt aatttcattc attcttaatc tttgtgaaaa ataatgttca 60
 39 tcgagaattt taaggttgag tgcctaattg tgaagttacac cgagacttag attcagtccg 120
 40 tgtacaacta cgaaaccacc gaacttgttc acggaaacag gaatggcacc tatcatgtga 180
 41 ttgtcaaacc caaatctgtc aaatacgaat ttaaaaaccaa catccatgtt cctaaattag 240
 42 gggtaatgt tttgggttgg ggtggaaaca acggctcaac cctcaccggt ggtgttattg 300
 43 ctaaccgaga gggcatttca tggctacaa aggacaagat tcaacaagcc aattactttg 360
 44 gctccctcac ccaagcctca gctatccgag ttgggtcctt ccaggagag gaaatctatg 420
 45 ccccatctaa gggcctgtt ccaatggta accctgacga cattgtgtt ggggatggg 480
 46 atatcagcaa catgaacctg gctgatgcc tggccaggcc aaagggttt gacatcgatt 540
 47 tgcagaagca gttgaggcct tacatggaaat ccatgcttcc actccccgga atctatgacc 600
 48 cggatttcat tgctgccaac caagaggagc gtgccaacaa cgtcatcaag ggcacaaagc 660
 49 aagagcaagt tcaacaaatc atcaaagaca tcaaggcggtt taaggaagcc accaaagtgg 720
 50 acaagggttgt tttactgtgg actgccaaca cagagaggta cagtaatttgc gttgtggcc 780
 51 ttaatgacac catggagaat ctcttggctg ctgtgacag aatgaggtt gagatttctc 840
 52 cttccacattt gatatgcatt gcttgtgtt tggaaaatgt tcctttcatt aatgaaagcc 900
 53 ctcagaacac ttttgttacca gggctgattt atcttgcatt cgcgaggAAC actttgattt 960
 54 gtggagatga cttcaagagt ggtcagacca aatgaaatc tttgttgggtt gatttccttgc 1020
 55 tgggggctgg tatcaagcca acatctatac tcagttacaa ccatctggga aacaatgttgc 1080
 56 gtatgaatct ttcggctcca caaactttcc gttccaagga aatctccaag agcaacgttg 1140

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57 ttgatgatat ggtcaacagc aatgccatcc tctatgagcc tggtgaacat ccagaccatg 1200
 58 ttgttgttat taagtatgtg cttacgtag gggacagcaa gagagccatg gatgagtaca 1260
 59 cttcagagat attcatgggt gaaaagagca ccattgttt gcacaacaca tgcgaggatt 1320
 60 ccctcttagc tgctccttatt atcttgact tggtccttct tgctgagctc agcactagaa 1380
 61 tcgagttaa agctgaaaat gagggaaaat tccactcatt ccacccagtt gctaccatcc 1440
 62 tcagctacct caccaggct cctctggttc caccgggtac accagtggtg aatgcattgt 1500
 63 caaagcagcg tgcaatgctg gaaaacataa tgagggcttg tgttggattg gcccagaga 1560
 64 ataacatgtat tctcgagtac aagtgaagca tgggaccgaa gaataatata gttgggttag 1620
 65 cctagctgaa tgtttatgt taataatatg tttgcttata attttgcagtgtaattgaa 1680
 66 tgcacatcgtc tcattaatgc ttttagagcgg ggcataattct gttaatttagg aacatgaatg 1740
 67 aatgttagtat aattttgtt 1760
 69 <210> SEQ ID NO: 2
 70 <211> LENGTH: 510
 71 <212> TYPE: PRT
 72 <213> ORGANISM: Glycine max
 74 <400> SEQUENCE: 2
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 76 1 5 10 15
 78 Glu Thr Glu Ile Gln Ser Val Tyr Asn Tyr Glu Thr Thr Glu Leu Val
 79 20 25 30
 81 His Glu Asn Arg Asn Gly Thr Tyr Gln Trp Ile Val Lys Pro Lys Ser
 82 35 40 45
 84 Val Lys Tyr Glu Phe Lys Thr Asn Ile His Val Pro Lys Leu Gly Val
 85 50 55 60
 87 Met Leu Val Gly Trp Gly Asn Asn Gly Ser Thr Leu Thr Gly Gly
 88 65 70 75 80
 90 Val Ile Ala Asn Arg Glu Gly Ile Ser Trp Ala Thr Lys Asp Lys Ile
 91 85 90 95
 93 Gln Gln Ala Asn Tyr Phe Gly Ser Leu Thr Gln Ala Ser Ala Ile Arg
 94 100 105 110
 96 Val Gly Ser Phe Gln Gly Glu Glu Ile Tyr Ala Pro Phe Lys Ser Leu
 97 115 120 125
 99 Leu Pro Met Val Asn Pro Asp Asp Ile Val Phe Gly Gly Trp Asp Ile
 100 130 135 140
 102 Ser Asn Met Asn Leu Ala Asp Ala Met Ala Arg Ala Lys Val Phe Asp
 103 145 150 155 160
 105 Ile Asp Leu Gln Lys Gln Leu Arg Pro Tyr Met Glu Ser Met Leu Pro
 106 165 170 175
 108 Leu Pro Gly Ile Tyr Asp Pro Asp Phe Ile Ala Ala Asn Gln Glu Glu
 109 180 185 190
 111 Arg Ala Asn Asn Val Ile Lys Gly Thr Lys Gln Glu Gln Val Gln Gln
 112 195 200 205
 114 Ile Ile Lys Asp Ile Lys Ala Phe Lys Glu Ala Thr Lys Val Asp Lys
 115 210 215 220
 117 Val Val Val Leu Trp Thr Ala Asn Thr Glu Arg Tyr Ser Asn Leu Val
 118 225 230 235 240
 120 Val Gly Leu Asn Asp Thr Met Glu Asn Leu Leu Ala Ala Val Asp Arg
 121 245 250 255
 123 Asn Glu Ala Glu Ile Ser Pro Ser Thr Leu Tyr Ala Ile Ala Cys Val

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| | | | |
|-----|--|-----|-----|
| 124 | 260 | 265 | 270 |
| 126 | Met Glu Asn Val Pro Phe Ile Asn Gly Ser Pro Gln Asn Thr Phe Val | | |
| 127 | 275 | 280 | 285 |
| 129 | Pro Gly Leu Ile Asp Leu Ala Ile Ala Arg Asn Thr Leu Ile Gly Gly | | |
| 130 | 290 | 295 | 300 |
| 132 | Asp Asp Phe Lys Ser Gly Gln Thr Lys Met Lys Ser Val Leu Val Asp | | |
| 133 | 305 | 310 | 315 |
| 135 | Phe Leu Val Gly Ala Gly Ile Lys Pro Thr Ser Ile Val Ser Tyr Asn | | |
| 136 | 325 | 330 | 335 |
| 138 | His Leu Gly Asn Asn Asp Gly Met Asn Leu Ser Ala Pro Gln Thr Phe | | |
| 139 | 340 | 345 | 350 |
| 141 | Arg Ser Lys Glu Ile Ser Lys Ser Asn Val Val Asp Asp Met Val Asn | | |
| 142 | 355 | 360 | 365 |
| 144 | Ser Asn Ala Ile Leu Tyr Glu Pro Gly Glu His Pro Asp His Val Val | | |
| 145 | 370 | 375 | 380 |
| 147 | Val Ile Lys Tyr Val Pro Tyr Val Gly Asp Ser Lys Arg Ala Met Asp | | |
| 148 | 385 | 390 | 395 |
| 150 | Glu Tyr Thr Ser Glu Ile Phe Met Gly Gly Lys Ser Thr Ile Val Leu | | |
| 151 | 405 | 410 | 415 |
| 153 | His Asn Thr Cys Glu Asp Ser Leu Leu Ala Ala Pro Ile Ile Leu Asp | | |
| 154 | 420 | 425 | 430 |
| 156 | Leu Val Leu Leu Ala Glu Leu Ser Thr Arg Ile Glu Phe Lys Ala Glu | | |
| 157 | 435 | 440 | 445 |
| 159 | Asn Glu Gly Lys Phe His Ser Phe His Pro Val Ala Thr Ile Leu Ser | | |
| 160 | 450 | 455 | 460 |
| 162 | Tyr Leu Thr Lys Ala Pro Leu Val Pro Pro Gly Thr Pro Val Val Asn | | |
| 163 | 465 | 470 | 475 |
| 165 | Ala Leu Ser Lys Gln Arg Ala Met Leu Glu Asn Ile Met Arg Ala Cys | | |
| 166 | 485 | 490 | 495 |
| 168 | Val Gly Leu Ala Pro Glu Asn Asn Met Ile Leu Glu Tyr Lys | | |
| 169 | 500 | 505 | 510 |
| 171 | <210> SEQ ID NO: 3 | | |
| 172 | <211> LENGTH: 35 | | |
| 173 | <212> TYPE: DNA | | |
| 174 | <213> ORGANISM: Artificial Sequence | | |
| 176 | <220> FEATURE: | | |
| 177 | <223> OTHER INFORMATION: Description of Artificial Sequence: synthetic oligonucleotide | | |
| 179 | <400> SEQUENCE: 3 | | |
| 180 | gggaattcca tatgttcatc gagaatttta aggtt | | 35 |
| 182 | <210> SEQ ID NO: 4 | | |
| 183 | <211> LENGTH: 39 | | |
| 184 | <212> TYPE: DNA | | |
| 185 | <213> ORGANISM: Artificial Sequence | | |
| 187 | <220> FEATURE: | | |
| 188 | <223> OTHER INFORMATION: Description of Artificial Sequence: synthetic oligonucleotide | | |
| 190 | <400> SEQUENCE: 4 | | |
| 191 | aaggaaaaaa gcggccgctc acttgtactc gagaatcat | | 39 |
| 193 | <210> SEQ ID NO: 5 | | |
| 194 | <211> LENGTH: 1533 | | |

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195 <212> TYPE: DNA
196 <213> ORGANISM: Glycine max
198 <400> SEQUENCE: 5
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200 cagtccgtgt acaactacga aaccaccgaa cttgttcacg agaacaggaa tggcacctat 120
201 cagtggatttgc tcaaacccaa atctgtcaaa tacgaattta aaaccaacat ccatgttcct 180
202 aaatttagggg taatgcttgt gggttgggt ggaaacaacg gctcaaccct caccgggtgg 240
203 gtatttgcta accgagaggg catttcatgg gctacaaagg acaagattca acaagccaat 300
204 tactttggct ccctcaccctt aacccatggc atccgatgtt ggtccttcca gggagaggaa 360
205 atctatgccc cattcaagag cctgtttcca atggtaacc ctgacgacat tgtgtttggg 420
206 ggtatggata tcagcaacat gaacctggct gatgccatgg ccagggcaaa ggtgtttgac 480
207 atcgatttgc agaagcagtt gaggccttac atggaaatcca tgcttccact ccccgaaatc 540
208 tatgaccggg atttcattgc tgccaaaccaa gaggagcgtg ccaacaacgt catcaagggc 600
209 acaaagcaag agcaagttca acaaataatc aaagacatca aggctttaa ggaagccacc 660
210 aaagtggaca aggtgttgtt actgtggact gccaacacag agaggtacag taatttgggt 720
211 gtgggcctta atgacaccat ggagaatctc ttggctgtg tggacagaaa tgaggcttag 780
212 atttctcctt ccaccccttga tgccattgtt tggatgttggg aaaatgttcc tttcattaat 840
213 ggaagccctt agaacaactt tggatgttggg ctgattgtatc ttgccccatcg gaggaaacact 900
214 ttgattgggtt gagatgactt caagagtgtt cagacaaaaa tggaaatctgt gttgggtttag 960
215 ttcccttgggtt gggctgttat caagccaaatc tctatagtc gttacaacca tctggaaac 1020
216 aatgatggta tgaatcttgc ggctccacaa acttccgtt ccaaggaaat ctccaagagc 1080
217 aacgttgggtt atgatatggt caacagcaat gccatcctt atgagcttgg tgaacatcca 1140
218 gaccatgttgc ttgttattaa gtatgtgcct tacgtgggg acagcaatag agccatggat 1200
219 gaggatcccc tcttagctgc tccatttatac ttggacttgg tccctcttgc tgagctcagc 1260
220 gaggatcccc tcttagctgc tccatttatac ttggacttgg tccctcttgc tgagctcagc 1320
221 actagaatcg agtttaaagc tggaaatggg gggaaattcc actcatttca cccagttgt 1380
222 accatcctca gctacccac caaggctcct ctgggtccac cgggtacacc agtggtaat 1440
223 gcattgtcaa agcagcgtgc aatgtggaa aacataatga gggcttgggt tggattggcc 1500
224 ccagagaata acatgattct cgagtacaag tga                                         1533

226 <210> SEQ ID NO: 6
227 <211> LENGTH: 510
228 <212> TYPE: PRT
229 <213> ORGANISM: Glycine max
231 <400> SEQUENCE: 6
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235 Glu Thr Glu Ile Gln Ser Val Tyr Asn Tyr Glu Thr Thr Glu Leu Val
236      20          25          30
238 His Glu Asn Arg Asn Gly Thr Tyr Gln Trp Ile Val Lys Pro Lys Ser
239      35          40          45
241 Val Lys Tyr Glu Phe Lys Thr Asn Ile His Val Pro Lys Leu Gly Val
242      50          55          60
244 Met Leu Val Gly Trp Gly Gly Asn Asn Gly Ser Thr Leu Thr Gly Gly
245      65          70          75          80
247 Val Ile Ala Asn Arg Glu Gly Ile Ser Trp Ala Thr Lys Asp Lys Ile
248      85          90          95
250 Gln Gln Ala Asn Tyr Phe Gly Ser Leu Thr Gln Ala Ser Ala Ile Arg
251      100         105         110
253 Val Gly Ser Phe Gln Gly Glu Ile Tyr Ala Pro Phe Lys Ser Leu

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| | | | |
|-----|---|-----|-----|
| 254 | 115 | 120 | 125 |
| 256 | Leu Pro Met Val Asn Pro Asp Asp Ile Val Phe Gly Gly Trp Asp Ile | | |
| 257 | 130 | 135 | 140 |
| 259 | Ser Asn Met Asn Leu Ala Asp Ala Met Ala Arg Ala Lys Val Phe Asp | | |
| 260 | 145 | 150 | 155 |
| 262 | Ile Asp Leu Gln Lys Gln Leu Arg Pro Tyr Met Glu Ser Met Leu Pro | | 160 |
| 263 | 165 | 170 | 175 |
| 265 | Leu Pro Gly Ile Tyr Asp Pro Asp Phe Ile Ala Ala Asn Gln Glu Glu | | |
| 266 | 180 | 185 | 190 |
| 268 | Arg Ala Asn Asn Val Ile Lys Gly Thr Lys Gln Glu Gln Val Gln Gln | | |
| 269 | 195 | 200 | 205 |
| 271 | Ile Ile Lys Asp Ile Lys Ala Phe Lys Glu Ala Thr Lys Val Asp Lys | | |
| 272 | 210 | 215 | 220 |
| 274 | Val Val Val Leu Trp Thr Ala Asn Thr Glu Arg Tyr Ser Asn Leu Val | | |
| 275 | 225 | 230 | 235 |
| 277 | 240 | 245 | 250 |
| 278 | Val Gly Leu Asn Asp Thr Met Glu Asn Leu Leu Ala Ala Val Asp Arg | | 255 |
| 280 | 260 | 265 | 270 |
| 281 | Asn Glu Ala Glu Ile Ser Pro Ser Thr Leu Tyr Ala Ile Ala Cys Val | | |
| 283 | Met Glu Asn Val Pro Phe Ile Asn Gly Ser Pro Gln Asn Thr Phe Val | | |
| 284 | 275 | 280 | 285 |
| 286 | Pro Gly Leu Ile Asp Leu Ala Ile Ala Arg Asn Thr Leu Ile Gly Gly | | |
| 287 | 290 | 295 | 300 |
| 289 | Asp Asp Phe Lys Ser Gly Gln Thr Lys Met Lys Ser Val Leu Val Asp | | |
| 290 | 305 | 310 | 315 |
| 292 | Phe Leu Val Gly Ala Gly Ile Lys Pro Thr Ser Ile Val Ser Tyr Asn | | 320 |
| 293 | 325 | 330 | 335 |
| 295 | His Leu Gly Asn Asn Asp Gly Met Asn Leu Ser Ala Pro Gln Thr Phe | | |
| 296 | 340 | 345 | 350 |
| 298 | Arg Ser Lys Glu Ile Ser Lys Ser Asn Val Val Asp Asp Met Val Asn | | |
| 299 | 355 | 360 | 365 |
| 301 | Ser Asn Ala Ile Leu Tyr Glu Pro Gly Glu His Pro Asp His Val Val | | |
| 302 | 370 | 375 | 380 |
| 304 | 385 | 390 | 395 |
| 307 | Val Ile Lys Tyr Val Pro Tyr Val Gly Asp Ser Asn Arg Ala Met Asp | | 400 |
| 308 | 405 | 410 | 415 |
| 310 | Glu Tyr Thr Ser Glu Ile Phe Met Gly Gly Lys Ser Thr Ile Val Leu | | |
| 311 | 420 | 425 | 430 |
| 313 | 430 | 435 | 440 |
| 314 | Leu Val Leu Leu Ala Glu Leu Ser Thr Arg Ile Glu Phe Lys Ala Glu | | |
| 316 | 445 | 450 | 455 |
| 317 | Asn Glu Gly Lys Phe His Ser Phe His Pro Val Ala Thr Ile Leu Ser | | |
| 319 | 460 | 465 | 470 |
| 320 | Tyr Leu Thr Lys Ala Pro Leu Val Pro Pro Gly Thr Pro Val Val Asn | | 480 |
| 322 | 475 | 480 | 485 |
| 323 | Ala Leu Ser Lys Gln Arg Ala Met Leu Glu Asn Ile Met Arg Ala Cys | | |
| 325 | 490 | 495 | 500 |
| 326 | Val Gly Leu Ala Pro Glu Asn Asn Met Ile Leu Glu Tyr Lys | | |
| | 505 | 510 | |

VERIFICATION SUMMARY

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